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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/528,288	04/13/2005	Richard A. Joseph	NEN-21902/16	4906

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EXAMINER	
SISSON, BRADLEY L	
ART UNIT	PAPER NUMBER
1634	
MAIL DATE	DELIVERY MODE
07/18/2008	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/528,288	JOSEPH ET AL.	
	Examiner	Art Unit	
	Bradley L. Sisson	1634	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *28 April 2008*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1,3-12,15-19,21-28 and 39* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1,3-12,15-19,21-28 and 39* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Priority

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

3. Claims 1, 3-12, 15-19, 21-28, and 39 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

4. As presently worded, claims 1, 3-12, 15-19, and 21-28 are all drawn to a method of detecting "oligonucleotide elongation" which, for purposes of examination, has been construed as being directed to the process of elongation using an oligonucleotide, and not to detecting the product of such a reaction, i.e., an elongated oligonucleotide. Claim 39 is directed to a method of detecting "formation of an oligonucleotide hybrid."

5. In accordance with claim 1, one is to add a labeled oligonucleotide to "an oligonucleotide elongation mixture," initiate an elongation reaction, and assay for the labeled oligonucleotide. The claim has been amended so to reflect "the labeled oligonucleotide [is] characterized by an

organometallic coordinate covalent bond between the detectable moiety and the oligonucleotide."

6. In addressing the recited method steps, if the labeled oligonucleotide is present form the start, and it is never removed, the same label would be present at the culmination of the "elongation reaction." Accordingly, one would not be able to make any determination if the labeled oligonucleotide had been elongated or not. Furthermore, if the reaction required the cleavage of label, the same result would be obtained as the claimed method does not recite any method step that would result in the removal or quenching of the label under one situation and not another. The end result is that a skilled artisan would not be able to make the required determination.

7. Assuming *arguendo*, that the claimed method was amended so to overcome the issue of the label, it still does not allow for the active detection of the process (note that the claims are drawn to detection of "oligonucleotide elongation" and not to the detection of >>elongated oligonucleotide<<). At best, the method would allow for the assumption that the process took place, not that it is occurring at any point in time. However, as noted above, there is no method step recited that allows a skilled artisan to draw a correlation between any elongation and the presence or absence of a label.

8. Claim 15 is also drawn to a "process of detecting an oligonucleotide elongation." Unlike claim 1, claim 15 requires that the artisan "measure a fluorescence parameter in the elongation reaction mixture at a first time point" and compare it to "a reference measurement to detect the oligonucleotide elongation." The method does not require the first time point be made at any

particular point in the assay. Consequently, the claim fairly encompasses taking the sample before as well as during the introduction of the reagents. Furthermore, the method does not require the sample to be taken during and/or after the potential elongation reaction has taken place, which would seemingly be more informative. Even if the claim were to be amended so to recite a limitation that the sample is to be taken once elongation would have occurred, the underlying method does not recite any method step that would result in a product that would have a signal any different from when the reactants were simply added to the reaction container.

9. Claims 16-19 and 21-28, which depend from claim 15, fail to overcome this issue and are similarly rejected.

10. Claim 39, as noted above, is drawn to a method of "detecting the formation of an oligonucleotide hybrid," which has been construed as the formation of a hybridization product, involving an oligonucleotide that comprises a "metal-containing fluorescent compound." Like claim 15, the method calls for one to take a sample at some point and to compare it to a "reference measurement." And like claim 15, there is no requirement that the test sample be taken at any particular point along the way, or that there be any change in the signal should there be any hybridization taking place.

11. The method of claim 39 fairly encompasses performing hybridization under virtually any condition, e.g., low stringency, for which the oligonucleotide probe could hybridize to any nucleic acid sequence present, and therein not yield any meaningful result. The claimed method also fairly encompasses the use of an oligonucleotide probe that can form either yield self-

hybridization or dimmers with other copies of the probe (or different probes) that are present in the assay mixture.

12. While the claim does require the used of a "reference measurement," the aspect of just when, and under what conditions the "reference measurement" was taken, and how this is to relate to the assay being performed is open to interpretation.

13. Applicant is urged to consider amending the claims such that the three independent claims (claims 1, 15, and 39) will all result in a meaningful result that is adequately supported by the disclosure.

14. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

15. Claims 1, 3-12, 15-19, 21-28, and 39 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

16. Claims 1, 3-12, 15-19, 21-28, and 39 are rejected under 35 U.S.C. 112, second paragraph, as being incomplete for omitting essential steps, such omission amounting to a gap between the steps. See MPEP § 2172.01. The omitted steps are: Those steps which will result in a meaningful result be obtained from each of the methods of detecting oligonucleotide elongation as well as the method of detecting a hybrid oligonucleotide.

17. Claim 39 is indefinite as to what constitutes the metes and bounds of an "oligonucleotide hybrid."

Claim Rejections - 35 USC § 103

18. Applicant is advised that under current Office policy, a claim cannot be rejected under 35 USC 112, first paragraph, for lack of enablement, and also be rejected under 103(a) as being obvious. Accordingly, the rejection of claims under 35 USC 103(a) has been withdrawn.

Conclusion

19. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

20. A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

21. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Bradley L. Sisson whose telephone number is (571) 272-0751. The examiner can normally be reached on 6:30 a.m. to 5 p.m., Monday through Thursday.

22. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ram Shukla, Ph.D. can be reached on (571) 272-0735. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

23. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Bradley L. Sisson/
Primary Examiner, Art Unit 1634